THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte MIKIO TOMARU, NORIO SHIBATA, SHINSUKE TAKAHASHI and AKIHIRO SUZUKI

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Appeal No. 1997-3024
Application 08/325,476

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ON BRIEF

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Before FRANKFORT, STAAB and McQUADE, Administrative Patent Judges.

STAAB, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 1-20, all the claims pending in the application.

Appellants' invention pertains to coating equipment comprising an extrusion type coating head for applying a coating fluid to the surface of a continuously running support web (claims 1-5 and 17-20), and to a process of applying a coating fluid to the surface of a continuously running support web (claims 6-16). As explained in the "Description of the Related Art" section of appellants' specification, it is known to use an extrusion type coating head to apply a coating to a continuously running web. In a known process, coating fluid is applied to the web surface in a so-called "non-pressurized" condition.[1] As explained on pages 2-3 of appellants' specification and as illustrated in Figure 12, in this known process, air may enter into the coating head at the application point of the coating fluid to cause a phenomenon known as "film cut" wherein the coating fluid 36 separates from a precoating layer 35 previously applied to the web 30 at the side edges of the coating. It is an objective of appellants' invention to effectively lessen the effect of air entering at the application point of the coating fluid to

[1]We understand this to mean that the coating fluid is supplied to the web surface at substantially ambient pressure.

thereby prevent the occurrence of film cut. According to appellants, this objective is realized by a particular relationship, described in detail on page 8 of the specification, between elements of the coating head and the web.

Independent claim 1, a copy of which is found in an appendix to appellants' brief, is representative of the appealed subject matter.

The following reference is relied upon by the examiner in support of a rejection under 35 U.S.C. § 103 are:

Shibata et al 5,435,847 Jul. 25, 1995

In addition, the examiner relies upon appellants' admitted prior art (AAPA), as set forth on pages 2-3 of the specification, in support of the rejection under 35 U.S.C. § 103.

Claims 1-5 and 17-20 stand rejected under 35 U.S.C. § 112, second paragraph, "for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention" (answer, page 3).

Claims 1-20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Shibata in view of appellants' admitted prior art (AAPA).

The 35 U.S.C. § 112, second paragraph, rejection

Considering first the rejection of apparatus claims 1-5 and 17-20 under the second paragraph of 35 U.S.C. § 112, it is the examiner's view (answer, page 4) that the support, i.e., the web 30, cannot be considered part of the claimed apparatus because it is the material being operated upon. The examiner maintains that

> [s]ince the support is not part of the claimed apparatus, there is no required positioning for the support and, therefore, the distance [T] between the support [30] and the plate [7] cannot be calculated with definiteness. As a result, the area [T x W] which is calculated based on the measured distance [T] also cannot be calculated with definiteness, and the overall claims lack definiteness. [Answer, page 4].

Because we do not agree with the examiner's foundation position that the support is not part of the claimed subject matter, we will not sustain this rejection. Lines 1-3 of

claim 1 indicate that the claim is directed to "[c]oating equipment with an extrusion coating head disposed between run guide means spaced a distance apart *and facing a continuously running support retained by said run guide means*" (emphasis added). Thus, in addition to stating that the claimed "equipment" includes an extrusion coating head and run guide means, lines 1-3 also state that the coating head "faces" the continuously running support and that the continuously running support is "retained by" the run guide means. From our perspective, the recitation of the relationship between the coating head and the continuously running support (i.e., the coating head "facing" the support) and the recitation of the relationship between the continuously running support and the run guide means (i.e., the support being "retained by" the run guide means) amounts to a positive recitation of the continuously running support in conjunction with the coating equipment elements set forth elsewhere in claim 1. This being the case, we believe an artisan could indeed calculate the distance between the support and the regulation plates, as called for within the body of claim 1, since both the support and the regulation plates are positively recited in the claim.

Concerning the examiner's position that the support cannot be considered part of the claimed apparatus because it is the material being operated upon, we know of no *per se* rule prohibiting an applicant from positively reciting in an apparatus claim an article worked upon by the apparatus in order to establish with clarity and precision a critical relationship therebetween. As to the *Hughes*[2] and *Rishoi*[3] cases cited by the

examiner in support of the rejection, we note that in each of these cases the claims were rejected as being unpatentable over prior art. It would be inappropriate, in our view, to extract and distill from the language the court used in deciding these cases a general rule of claim indefiniteness when that issue was not squarely before the court.

In light of the foregoing, we will not sustain the standing rejection of claims 1-5 and 17-20 under 35 U.S.C. § 112, second paragraph.

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[2]*In re Hughes,* 49 F.2d 478, 9 USPQ 223 (CCPA, 1931)

[3]*In re Rishoi*, 197 F.2d 342, 94 USPQ 71 (CCPA 1952)

The 35 U.S.C. § 103 rejection

Turning to the § 103 rejection of claims 1-20, representative claim 1 calls for coating equipment comprising, inter alia, an extrusion coating head 1 disposed between run guide means 2. With reference to appellants' Figures 1 and 2, the coating head 1 is set forth in claim 1 as comprising a front edge 5, a rear edge 6, a coating fluid spouting slot 4, and coating width regulation plates 7 disposed on each of the two sides ends of the slot. The regulation plates are recited in claim 1 as performing the function of

> applying the coating fluid [36] to a surface of the support [30] from said slot in a non-pressurized condition in a liquid seal state while scraping off part of a viscous fluid [35] previously applied to said support [30] by said front edge [5].[4]

The critical aspect of appellants' invention involves the shape and position of that portion of the upper edge of the plates 7 that lies adjacent the width of the slot 4. In

[4]In seems to us that it would be more accurate to attribute these functions to the coating equipment as a whole, rather than the regulation plates alone.

particular, the plates 7 are stated in claim 1 to be shaped and positioned such that

> a nearest point [P] of a portion of an upper edge [71] of said coating width regulation plate[s] [7] corresponding to said slot [4] with respect to the support surface [30] is positioned upstream from a center line [80] of a width [W] of said slot along the support running direction[,] and an area given by a product of a distance [T] between the nearest point [P] and the support surface [30] and the width [W] of said slot is 1 mm^2 to $6x10^{-5}$ mm^2.

Looking at Shibata, this reference pertains to an extrusion coating apparatus and method wherein the coating solution is discharged from a slot in the coating head under pressure (column 3, lines 37-39). Shibata's apparatus includes a coating head having a front edge 3, a back edge 2, a coating spouting slot 4 formed between the front and back edges, and a coating solution pool 6 buried within the coating head. The solution pool and the slot have openings at both ends that are closed off by shield boards 5. In addition, coating regulation width boards 7 are fitted in the slot 4 at both ends "to resist the flow of the coating solution thereby to determine the width of a coated layer 21 formed on the web" (column 3, lines 41-43). Of importance to Shibata is the relationship between the width B of the coating applying slot

4 and the distance C between the edge 10 of element 3 and the edge 11 of plate 7. Shibata states that when the width B and the distance C correspond to the marks "o" in Table 3 in column 6, the edges of the coating are straight and of uniform thickness.

The examiner's position is that it would have been obvious to modify Shibata

> to use the support guides and nonpressurized support scraping as taught by [AAPA] . . . since Shibata teaches a method of coating using width regulation plates that are accurate and allow for less wear (column 4, lines 5-30) and [since] . . . [AAPA] teaches that it is conventional to use support guides and nonpressurized scraping extrusion heads when extrusion coating with regulation plates. [Answer, page 7.]

It is questionable, in our view, that one of ordinary skill in the art would modify the apparatus and mode of operation of Shibata in the manner proposed by the examiner in view of AAPA. In any event, even if the prior art teachings relied upon by the examiner were combined in the manner proposed, we do not agree with the examiner's bottom line position that the claimed subject matter would necessarily result. What is missing from the examiner's evidentiary basis is a teaching of positioning the nearest point P of the upper

edge of a coating width regulation plate such that the product of the distance T between point P and the support surface is within the range called for in claims 1 and 6. This is so because Shibata's distance C does not relate to the distance between the nearest point of a coating width regulation plate *and the support surface*.

As is apparent from appellants' Figure 2, the distance T between the nearest point P of the coating width regulation plate and the support is the sum of "a", the distance between point P and downstream edge portion of element 5, and "t", the thickness of the precoat 35. Thus, distance T *includes* the thickness of the precoat 35. In maintaining that distance C of Shibata corresponds to appellants' distance T, the examiner appears to have inadvertently made several unfounded assumptions regarding Shibata. First, the examiner appears to have assumed that Shibata's web contacts the coating head at point 10, which may or may not be correct. Second, the examiner appears to have assumed that Shibata's web lies in a plane parallel to the upper surface of the plate 7 as it run across the coating head, such that distance C corresponds to the nearest point between the web and the plate. This also

may or may not be correct. In addition, the examiner appears to have neglected to take into account that the thickness of the precoat must be considered in determining distance T. In this regard, even if we accept, as proposed by the examiner, that it would have been obvious to provide a precoat to the web of Shibata in view of AAPA, the examiner has not persuasively explained why the *sum* of the distance C and the thickness of the precoat would necessarily result in a distance T which, when multiplied by the thickness of the slot, would yield a product within the range called for in claims 1 and 6. For these reasons, the examiner's position that distance C of Shibata corresponds to the distance between the nearest point of a coating width regulation plate and the support surface is not well taken.

Accordingly, we also will not sustain the standing rejection of claims 1-20 under 35 U.S.C. § 103.

The decision of the examiner is reversed.

REVERSED

CHARLES E. FRANKFORT Administrative Patent Judge	)
LAWRENCE J. STAAB Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
JOHN P. McQUADE Administrative Patent Judge	)

LJS/pgg

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Sughrue, Mion, Zinn Macpeak & Seas
2100 Pennsylvania Avenue N.W.
Washington, DC 20037